ZAMKOVOY, V.

"Geography of the Ukrainian S.S.R." Ol.T.Dibrova. Reviewed by V.Zamkovoi. Geog.v shkole no.6:71-73 N-D '54. (MLRA 8:1)
(Ukraine--Geography) (Dibrova, Ol.T.)

ZAMKOVOY, V.P. (g.Artemovsk)

Natural history of a coal region ("Natural history of the Donets Basin". A.Sliusarev. Reviewed by V.P.Zamkovoi). Priroda 45 no.7: 117-118 Jl '56. (MIRA 9:9)
(Donets Basin--Natural history) (Sliusarev, A.)

ZAMKOVOI, V.P.

ZAMKOVOI, V.P. Vozrozhdennyi Donbas. (Geografiia v shkole, 1949, no. 5., p. 22.).
DLC: Unclass.

SO: LC, Soviet Geography, Part I, 1951, Uncl.

ZAMKOVOY, V. P.

42291: ZAMKOVOY, V. P. - Vozrozhdennaya, Kochegavka Soyuza. (Donetskiy basseyn). Nauka i zhizn', 1948, No. 12, s. 7-9.

SO: Letopis' Zhurnal'nykh Statey, Vol. 47, 1948.

ZAMKOVOI, VP.

ZAMKOVOI, V.P. Vozrozhdennyi Donbas. (Geografiia v shkole, 1949, no. 5, p. 22).
DLC: Unclass

SO: LC, Soviet Geography, Part II, 1951/Unclassified

COUNTRY : USSR
CATEGORY : Cultivated Plants. Forage Crops

ABS. JOUR. : RZhBiol., No. 23 1958, No. 104732

AUTHOR : Bruy, A. M., Zamkovoy, G. M., Golokovskaya, I. N.
INST. : Dnepropetrovsk Agricultural Institute
TITLE : On the feasibility of Securing Two Mowings of Corn.

ORIG. PUB. : Zhivotnovodstvo, 1957, No. 6, 73-77

ABSTRACT : In the experiments at Dnepropetrovskiy Agricultural Institute, corn planted on the 29th of April (variety Uspekh) reached a height of 80-110 centimeters by the 5-6th of July. Formation of flowers was in progress in the primordial panicle in the majority of the plants and elongation and differentiation of the terminal axillary buds was beginning. The mowing of the green bulk was done on the 8th of July at a height of 8-15cm. As the result of the variation in the height of mowing, the stalk in some plants was cut off (in 49.4% of the plants), in others - the

Card: 1/3

COUNTRY :
CATEGORY : M

ABS. JOUR. : RZhBiol., No. 1958, No. 104732

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : developing panicle was later reflected in the overall diminution in the size of the plants. The earlier the mowing was done, the larger were the dimensions attained by the growing plants. Delay in the development and the lag in growth are explained by the removal of a considerable part of the assimilating surface. Plants with the stem cut, i.e. those in which the primordial panicle and part of the stem with axillary buds were removed, grew for

CARD: 3/4

ZAMKOVOY, G. T.

Wheat

Selection of spring wheat in the Far East. Sel. i sem. 19, No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, September 1952. UNCLASSIFIED.

ZANKOVOY, I.Ye.

Foundry coke of charges containing gas coal. Koks i khim. no.1: 26-27 '61. (MIRA 14:1)

1. Stalinskiy sovnarkhoz.
(Rutchenkovo--Coke)

PA 67T6

ZAMKOVOY, V. P.

USSR/Chemistry - Mercury, Properties May 1948
Chemistry - Mercury

"Quick Silver," V.P.Zamkovoy, 2 pp

"Nauka i Zhizn'" No 5

Describes chemical and physical properties and characteristics. Briefs some of the uses for quick silver.

67T6

FDB

ZHIDKOVA, E.; ZAMKOVSKAYA, L.

Methodology for planning labor productivity in the alcohol industry. Biul. nauch. inform.: trud i zar. plata 5 no.9: 10-14 '62. (MIRA 15:10)

(Distilling industries—Labor productivity)

ZAMKOVSKIY, D.

How clothing should be sold. Sov. torg. 37 no.11:21-24 N '63.
(MIRA 16:12)

1. Upravlyayushchiy Moskovskoy shveynoy torgovoy bazoy Rostorgodezhdy.

ZAMKOVSKIY, D.

Improve the work of sewing enterprises. Sov. torg. 33 no.6:19-23
Je '59. (MIRA 12:8)
(Clothing industry)

BABIKOVA, Natal'ya Ivanovna; DIDENKO, Valentina Sergeyevna; ZAMKOVSKIY, Dmitriy Yakovlevich; TISHENINOVA, Nina Mikhaylovna; ISHKOVA, A.K., red.; GROMOV, A.S., tekhn. red.

[Work organization in a workshop for the sewing of custom-made clothes] Organizatsiia truda v atel'e individual'nogo poshiva odezhdy. Moskva, Gostorgizdat, 1962. 229 p. (MIRA 15:6)
(Clothing industry--Job descriptions)

VOLYNCHIKOV, N., inzh. (g.Lebedyan'); ZAMKOVSKIY, I.; OKNER, Kh.;
NIKOLENKO, M., inzh.; VLASENKO, B. (g.Krasnodar)

The reader continues the discussion. Sov. profsoiuzy 18 no.8: 16-18 '62. (MIRA 15:4)

1. Predsedatel' mestkoma sluzhby vodosnabzheniya st. Simferopol' (for Zamkovskiy). 2. Predsedatel' postroykoma stroyupravleniya No.3 tresta "Promstroy", g. Dushanbe (for Okner). 3. Chlen mestnogo komiteta proyektnogo instituta "Mosbassgiproshakht", g. Tula (for Nikolenko).

(Socialist competition)

25(1) PHASE I BOOK EXPLOITATION SOV/2107

Zamkovskiy, V.R., and V. Ye. Svets, Compilers

Podgotovka metalla k prokatke i otdelka prokata; obobshcheniye peredovogo opyta (Preparing Metal for Rolling and Finishing Rolled Products; General Conclusions From Progressive Experiments) Khar'kov, Metallurgizdat, 1958. 279 p. 2,600 copies printed.

Sponsoring Agencies: Ukraine. Gosudarstvennaya planovaya komissiya and Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii proizvodstva i truda v chernoy metallurgii.

Resp. Ed.: L.V. Shapiro; Ed. of Publishing House: S.S. Liberman; Tech. Ed.: S.P. Andreyev.

PURPOSE: This book is designed for workers preparing metal for rolling and in finishing rolled stock at metallurgical plants. It may also be useful for students in vuzes and teknikums.

COVERAGE: Practices of Soviet plants in preparing metal for rolling and in finishing rolled products are presented. These two phases are admittedly

Card 1/5

the weakest link in production of rolled stock. The most effective equipment for descaling stock is described. Methods of removing defects and dressing metal are discussed. Quality inspection of metal surfaces and the packing and storing of finished products are described. Illustrations are given in the form of pictures, drawings, and tables. Methods for preparing metal for rolling and for finishing rolled products developed in non-Soviet countries are also briefly discussed. Personalities mentioned include engineers U.S. Slavkin (Glavspetsstal'), N.V. Amchislavskiy (KMK), B.D. Trakhtman (MMK), N.M. Lomovtsev, and S.R. Druzhinin. There are 57 references; 38 Soviet, 14 English, and 5 German.

TABLE OF CONTENTS:

Introduction 3

I. Nature of Surface Defects 5

II. Methods of Surface Cleaning of Metal 12
  1. Mechanical cleaning 13
  2. Polishing 21
  3. Chemical cleaning 29
  4. Gas flame cleaning 38

III. Control Surface Quality and Dimensions of Rolled Products 43

IV. Methods of Removing Surface Defects of Metal 49
  A. Selection of a method of removing surface defects 49
  B. Flame scarfing 56
    1. Essentials of the scarfing method 56
    2. Structural transformations and conditions leading to the formation of cracks during scarfing 59
    3. Heating of metal before scarfing 62
    4. Scarfing equipment 66
    5. Combustible gases and oxygen used in scarfing 91
    6. Factors affecting surface condition and productivity 94
    7. Organization of scarfing operations 97
    8. Progressive methods of operation 104
  C. Pneumatic chipping 113
    1. Type, size, and condition of the pneumatic hammer 113
    2. Exchangeable cutting tools (chisels) 118
    3. Pressure of compressed air 130
    4. Mechanical properties and surface condition of the chipped stock 132

Preparing Metal for Rolling (Cont.) SOV/2107

5. Organization of operations 133
6. Progressive methods of operation 139
D. Abrasive chipping 147
1. Properties of an abrasive wheel 147
2. Cutting speed 154
3. Construction of machine tools 160
4. Ventilation of the operator's stand on an abrasive machine-tool 186
5. Organization of operations 189
6. Progressive methods of operation 194
7. Combined abrasive and pneumatic chipping of metal 198
E. Machine chipping by turning, planing, and milling 204
1. Machine chipping by turning 204
2. Machine chipping by planing 211
3. Machine chipping by milling 214

V. Tables for Removing Surface Defects and Tilting Devices 224
1. Tables 224
2. Tilting of metal and tilting equipment 228

Card 4/5

Preparing Metal for Rolling (Cont.) SOV/2107

VI. Straightening of Metal 237
  1. Straightening presses 238
  2. Roller-type straightening machines 243
  3. Rotary-type straightening machine 243

VII. Inspection of Rolled Stock 253

VIII. Lighting of Working Places for Inspection and Chipping of Metal 259

IX. Packing and Storing Rolled Stock 263
  1. Packing rolled stock 263
  2. Storage 266

X. Production Planning and Follow-up of Stock in the Finishing Line 271

Bibliography 275

Appendix 277

AVAILABLE: Library of Congress (TS340.Z26)

Card 5/5

GO/mas
8-11-59

ASHERSON, M. (Fergana); ALEKSEYEVA, M.; ZAMKOVSKIY, V., liteyshchik; BYKOVA, V. (Kiyev); ZUBKO, A.; DUKHNEVICH, B. (Vil'nyus)

On good people. Sov. profsoiuzy 19 no.11:19 Je '63. (MIRA 16:8)

1. Literaturnyy sotrudnik mnogotirazhnoy gazety fabriki "Skorokhod", Leningrad (for Alekseyeva). 2. Mekhanicheskiy zavod "Santekhprom", Simferopol' (for Zamkovskiy). 3. Nachal'nik otdeleniya Gosudarstvennoy avtomobil'noy inspektsii Sovetskogo rayona, Kuybyshev (for Zubko). (Trade unions—Officers)

ZAMKOVSKIY, V.R., st. nauchnyy sotrudnik,; **SVETS, V.Ya.**, ml. nauchnyy sotrudnik,; **SHAPIRO, L.V.**, otv. red.; **LIBERMAN, S.S.**, red. izd-va,; **ANDREYEV, S.P.**, tekhn. red.

[Preparing metal for rolling and the finishing of rolled products; generalization of progressive practices] Podgotovka metalla k prokatke i otdelka prokata; obobshchenie peredovogo opyta. Khar'kov, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1958. 279 p. (MIRA 11:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii proizvodstva i truda v chernoy metallurgii.
(Rolling(Metalwork))

PEYCHEV, G.; KOTON, I.; ZAMKOVSKIY, V.

Technical control at the steel plants. Sots.trud 4 no.8: 72-75 Ag '59. (MIRA 13:1)
(Steel industry--Quality control)

ZAMKOVYY, Valentin [Zamkovyi, V.]

Ukrainian pencil. Znan. ta pratsia no.7:25 Jl '62. (MIRA 15:7)
(Ukraine--Pencils)

ZAMKOVYY, Valentin [Zamkovyi, Valentyn]

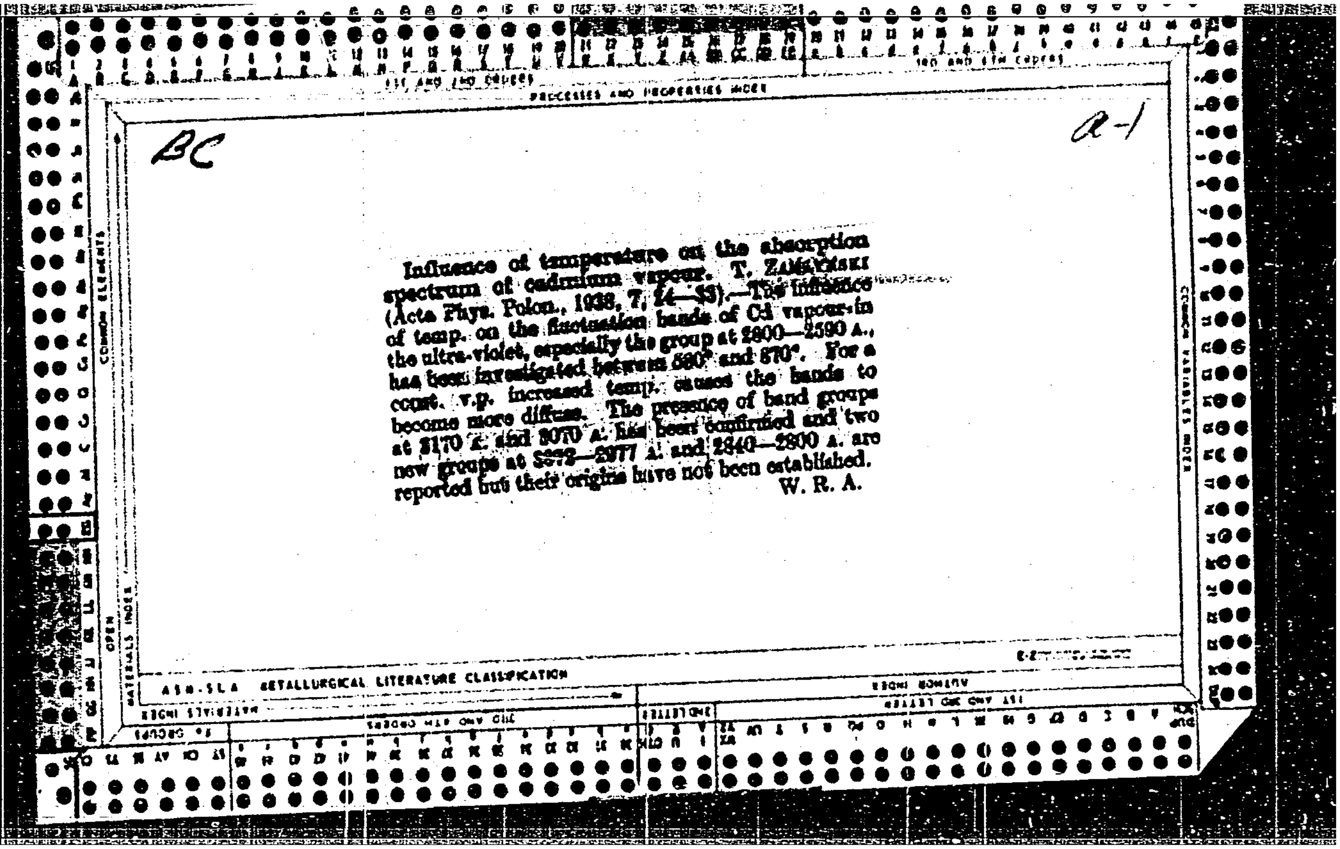
Treasure of Konstantinovka. Znan. ta pratsia no.4:14-15 Ap '63. (MIRA 16:6)

(Konstantinovka (Donetsk Province)—Glass factories)

ZAMKOVYY, V.

Germanium. Znan.ta pratsia no.1:9-10 Ja '59. (MIRA 12:10)

(Germanium)


1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
COMMON ELEMENTS
OPEN
MATERIALS INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BC

a-1

Influence of temperature on the absorption spectrum of cadmium vapour. T. ZAMOYSKI (Acta Phys. Polon., 1938, 7, 24—33).—The influence of temp. on the fluctuation bands of Cd vapour in the ultra-violet, especially the group at 2800—2590 A., has been investigated between 580° and 870°. For a const. v.p. increased temp. causes the bands to become more diffuse. The presence of band groups at 3170 A. and 3070 A. has been confirmed and two new groups at 3078—2977 A. and 2840—2800 A. are reported but their origins have not been established.

W. R. A.

SVETS, V.Ye., inzhener; ZAMKOVSKIY, V.R., inzhener; SHAPIRO, L.V., inzhener.

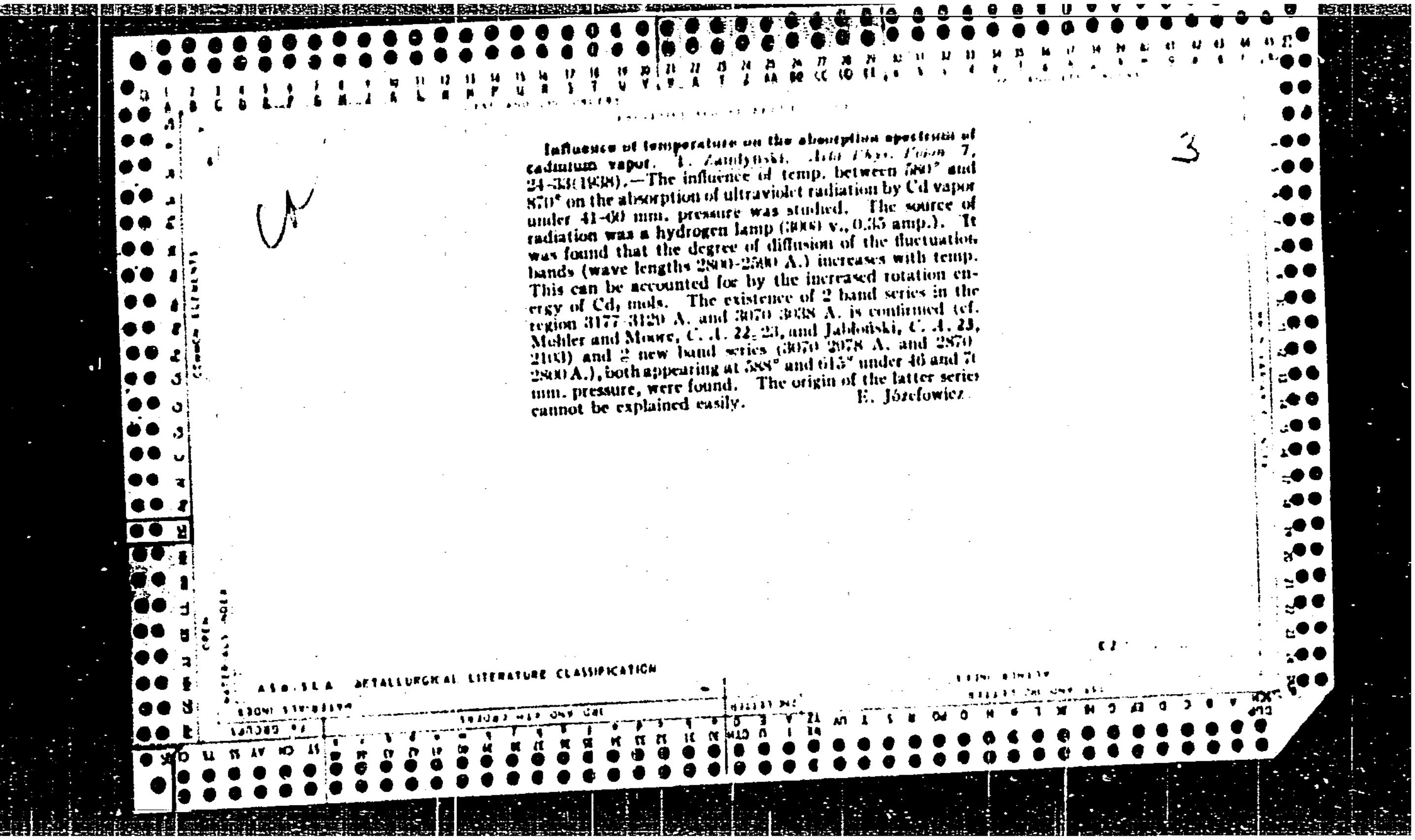
Conference on the preparation of metal for rolling and finishing of the rolled shapes. Metallurg no.10:36-39 O '56. (MLRA 9:11)

1. Orgchermet.

(Rolling (Metalwork))

ZAMLINSKIY, Vladimir [Zamlins'kyi, Volodymyr]; MIKHAYLICHENKO, B.
[Mykhailychenko, B.], red.; PAVLOVA, A., red.

[The astronaut] Astronavt. L'viv, Kameniar, 1964. 123 p.
(MIRA 18:2)



3

U

Influence of temperature on the absorption spectrum of cadmium vapor. I. Zamdynski. *Acta Phys. Polon.* 7, 24-33(1938).—The influence of temp. between 580° and 870° on the absorption of ultraviolet radiation by Cd vapor under 41-60 mm. pressure was studied. The source of radiation was a hydrogen lamp (3000 v., 0.35 amp.). It was found that the degree of diffusion of the fluctuation bands (wave lengths 2800-2580 A.) increases with temp. This can be accounted for by the increased rotation energy of Cd_2 mols. The existence of 2 band series in the region 3177-3120 A. and 3070-3038 A. is confirmed (cf. Mohler and Moore, C. A. 22, 23, and Jablonski, C. A. 23, 2103) and 2 new band series (3070-2978 A. and 2870-2800 A.), both appearing at 588° and 615° under 46 and 71 mm. pressure, were found. The origin of the latter series cannot be explained easily.
E. Józefowicz

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

WOLINSKI, Jerzy; BUZA, Daniela; CZERWINSKA-FEJGIN, Eugenia; ZAMLYNSKI, Waclaw

A new method of determining amines and phenols. Chem anal 4 no.5/6: 989-993 '59. (EEAI 9:9)

1. Katedra Chemii Organicznej Politechniki, Warszawa
(Amines) (Phenols)

ZAMLYNSKIY, K. L.

Final polishing of cylinders. Moskva, Sel'khozgiz, 1948. 35 p.

ZAMLYANSKIY, N.I.; MORGUN, G.Ye.

Use of acenaphthene in the preparation of azo dyes. Part 1.
Nauk. zap. L'viv. un. 13:113-116 '49. (MIRA 12:10)

1.Kafedra organicheskoy khimii L'vovskogo gosudarstvennogo universiteta imeni I. Franko.
(Acenaphthene) (Azo dyes)

ZAMNIUS, F., inzh.

Using molding sand in making asphalt concretes and mortars. Stroi. mat. 4 no.8:26-27 Ag '58. (MIRA 11:9)
(Sand, Foundry)

AUTHOR: Zammius, F.K. 32-3-24/52

TITLE: A Method for the Investigation of Sand for Asphalt Concretes (Metod issledovaniya peskov dlya asfal'tovykh betonov)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 3, pp. 316-316 (USSR)

ABSTRACT: The character and the intensity of the interaction between mineral- and organic components must be considered the main factor in the determination of the properties of asphalt systems. It is for this reason that not only the mechanical properties of sand shall be investigated as has hitherto been the case. A method of investigation was worked out by means of which the so-called "bitumen volume of sand" is determined. 10 g of bitumen is poured into a certain quantity of the sand to be investigated at 165°C. After cooling down the bitumen is carefully removed from the sand, after which the quantity of sand absorbed by the bitumen is determined according to the difference in weight measured. A final investigation of the sand may be carried out by pressing out the bitumen cast at 165°C at a pressure of 3000 kg/cm^2. The pressed-out sample is weighed and the volume of the bitumen is determined. The method

Card 1/2

A Method for the Investigation of Sand
for Asphalt Concretes

32-3-24/52

mentioned makes it possible, besides determining the activity of the sand, to determine also the orientation of the required quantity of bitumen. There are 5 references, 4 of which are Slavic.

ASSOCIATION: Khar'kov Polytechnic Institute imeni V.I. Lenin (Khar'kovskiy politekhnicheskiy institut im. V.I.Lenina)

AVAILABLE: Library of Congress

Card 2/2 1. Sand-Mechanical properties 2. Bitumen-Sand-Absorption

ZAMNIUS, F.K., inzh.

Using sand in making asphalt concrete mixes. Trudy MADI no.23:
166-172 '58. (MIRA 12:1)
(Sand) (Asphalt concrete)

ZAMNIUS, F.K.

Some problems in determining properties of sands for asphalt systems used in construction. Trudy KhPI 31 no.1:125-131 '59. (MIRA 13:10)

(Sand) (Asphalt concrete)

ZAMNIUS, F.K.

Ways of reducing the building costs of industrial enterprises.
Trudy KhPI 22 no.2:129-137 '59. (MIRA 15:9)
(Construction industry—Costs)

ZAMNIUS, F. K., Cand Tech Sci — (diss) "Investigation of sands for asphalt systems applicable in construction," Kharkov, 1960, 22 pp Kharkov Institute of Engineers of the Railroad Transport imeni S. M. Kirov)

(KL, 40-60, 122)

ZAMNIUS, F.K.

Method for investigating sands for use in asphalt concrete.
Zav. lab. 24 no.3:316 '58. (MIRA 11:3)

1.Khar'kovskiy politekhnicheskiy institut im. V.I. Lenina.
(Asphalt concrete) (Sand)

ZAMNIUS, F.K.; LEVITSKIY, P.A., otv. za vypusk

[Use of plastics in industrial and civil construction; lecture plan] Primenenie plastmass v promyshlennom i grazhdanskom stroitel'stve; konspekt lektsii. Khar'kov, M-vo vysshego i srednego spetsial'nogo obrazovaniia USSR, 1960. 22 p. (MIRA 14:7)

(Plastics) (Building materials)

ZAMNIYS, F.K., inzh.; POCHAPSKIY, N.F.

Mineral powder from the wastes of sodium carbonate production plants. Avt.dor. 22 no.7:8 Jl '59. (MIRA 12:9)
(Asphalt concrete) (Soda industry--By-products)

Zamoiski, A.

VI

I B-57 III and VI are probably stereoisomers

H. M. [illegible]

ZAMOJDO, R.

Mgr. Ing. R. Zamojdo, "Das t-Q-Diagramm und seine Anwendung bei Projectieren von Kesselanlagen," Energietecknik (Berlin), 6/9, September 1956, p. 401 ff.

Translated from an article which appeared in Przeglad Mechaniczny, 14/12, 1955, pp. 375-9.

ACHMATOWICZ, Osman; ZAMOJSKI, Aleksander

On the addition of diethyl mesoxalate to dienes. Formation of dihydropyran derivatives. Rocz chemii 35 no.5:1251-1262 '61.

1. Department of Organic Chemistry, University, Warsaw and Department of Organic Synthesis, Polish Academy of Sciences, Warsaw.

ZAMOJSKI, ALEKSANDER

Osman Achmatowicz, Miroslaw Leplawy and Aleksander Zamojski: "The Chemistry of Carbonyl Cyanide. I. The Action of Carbonyl Cianide on Unsaturated Hydrocarbons. Reactions with a-MethylStyrene or Allylbenzene, "Roczniki Chemii, Vol 30, No 1, Warsaw, 1956. Published from the Chair of Organic Chemistry, Lodz Polytechnic and the Chair of Organic Chemistry of Warsaw University, 29 Aug 55.

ZAMOJSKI, A.

POLAND/Organic Chemistry - General and Theoretical Topics of Organic Chemistry. G-1

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 46602

Author : O. Achmatowicz, A. Zamojski

Inst : Academy of Sciences of Poland.

Title : The Chemistry of Carbonyl Cyanide. IV. Dienophilic Properties of Carbonyl Cyanide and Diethyl Mesoxolate. Formation of Dihydropyran Derivatives.

Orig Pub : Bull. Acad. polon. sci., 1957, cl, 3, 5, No 9, 927-929

Abstract : $CO(CN)_2$ condenses rapidly at about 20° with the dienophiles butadiene (I) and 2,3-dimethylbutadiene (II) correspondingly producing 6,6-dicyan-5,6-dihydro-1:2-pyran (yield 75%, melting point 16°, boiling point 69 to 80°/ /2 mm) and 3,4-dimethyl-6,6-dicyan-5,6-dihydro-1:2-pyran

Card 1/2

[illegible] 8-methylcinnam[illegible]
[illegible] mixt. of 8.3 g. IX
[illegible] heated in 5 ml. C_6H_6 at
recrystd. m. 40.5-[illegible] gave on distn. 2.5 g. VIII, which when
react there [illegible] 3 [illegible] g. [illegible] 0.8 g. II
[illegible] cyanoformamide (X), m. 75-6.5° [illegible] -phenyl-3-buten-1-
A soln. of 2 g. X in 10 ml. C_6H_6-petr. ether [illegible] (from CCl_4-petr. ether).
PhNH₂ give 0.55 g. VI [illegible]
[illegible] whereas 0.5 g. X [illegible] diphenylurea (XI),
PhNH₂ give 0.18 g. of the cyanoformanilide [illegible] in 5 ml. C_6H_6 and 0.37 g.
soln. of 0.4 g. X [illegible]
[illegible] (3.2 g.) [illegible] cyanoformamide, m. 112-14°. [illegible] 5 ml. 10%
after 2 days 0.5 [illegible] g. [illegible] and a soln. of 1 g. X in 10 ml. [illegible] Ph-

ACHMATOWICZ, Osman; ZAMOJSKI, Alexander

Chemistry of carbonyl cyanide. IX. The action of cyanide on butadiene and 2,3-dimethylbutadiene. Synthesis of dihydropiran derivatives. Rocz chemii 35 no.4:799-812 '61.

1. Department of Organic Chemistry, Warsaw and Department of Organic Synthesis, Polish Academy of Sciences, Warsaw.

L 41814-66 T JK

ACC NR: AP6031698 (N) SOURCE CODE: PO/0099/66/040/003/0451/0462

20
B

AUTHOR: Zamojski, Aleksander

ORG: Department of Organic Chemistry, University, Warsaw (Katedra Chemii Organicznej Uniwersytetu)

TITLE: Synthesis of 2,4,8-trimethylundecanetri-1,5,9-ol, a degradation product of narbomycin

SOURCE: Roczniki chemii-annales societatis chimicae polonorum, v. 40, no. 3, 1966, 451-462

TOPIC TAGS: chemical synthesis, antibiotic

ABSTRACT: A synthesis of 2,4,8-trimethyl-undecanetri-1,5,9-ol was achieved. The synthetic product was proved to be identical with the trialcohol $C_{14}H_{30}O_3$, a degradation production of the macrolide antibiotic narbomycin. The author thanks Professor, Doctor O. Achmatowicz and Professor, Doctor J. Swiderski for interest in the results of this work, also Professor, Doctor V. Prelog and Doctor H. Gerlach from the Federal Polytechnic (ETH), Zurich, for getting the preparation of trialcohol VIII for comparative research. Orig. art. has: 5 figures and 9 formulas. [Based on author's Eng. abst.] [JPRS: 36,002]

SUB CODE: 07, 06 / SUBM DATE: 20Sep65 / ORIG REF: 001 / OTH REF: 010

Card 1/1 af

0919 [illegible]

ZAMOJSKI, B.

People of science and technology; Rolling techniques are their special field. Przegl techn no.31:4 3 Ag '60.

ZAMOJSKI, B.

Technological progress helps to economize foreign exchange values. Przegl techn no.33:4 17 Ag '60.

ZAMOJSKI, Br.

The automatic production line, an achievement of the engineers of the Telpod Works in Cracow. Przegl techn no.16:9 Ap '62.

ZAMOJSKI, Br.

The heavy industry is fulfilling its production tasks in compliance with the plan. Przegl techn no.13:1,9 Ap '62.

ZAMOJSKI, Br.

"An outline of the history of mining in the Polish Territories" vol.2., edited by Jan Pazdur. Reviewed by Dr. Zamojski. Przegl techn no.22:9 Je '62

ZAMOJSKI, B.

Rationalization and inventiveness, a basis of output concentration in coal mining. Przegl techn no. 28:8 15 Jl '62.

ZAMOJSKI, Bronislaw

Expositions of Polish heavy industry at the International Poznan Fair. Przegl techn no.23/24:4 17 Je '62.

ZAMOJSKI, Bronislaw

Textbooks on technology and other technological branch literature for technical schools published in millions of copies. Przegl techn no.17: 4 Ap '62.

ZAMOJSKI, Bronislaw

Has this been worth while? An interview with Kazimierz Glowacz, chief executive in heavy industry. Przegl techn no.18:8 6 My '62.

ZAMOJSKI, ~~Bronislaw~~

The Lubin and Glow region and the Legnica Metallurgical Works constitute the Polish Copper Basin. Przegl techn no.21:4;5 27 My '62.

ZAMOJSKI, Bronisław

With Gustaw Morcinek in Skoczow. Przegl techn no.10:6 '62.

ZAMOJSKI, J.

"An Exemplary Method of the Exploitation of the S-153, a Loading Machine in the Michal Coal Mine" p. 166 (Wiasomosci Gornicze, Vol. 4, No. 6, June, 1953, Katowice)

SO: Monthly List of East European Accessions, Vol. 3, No. 2, Library of Congress, February, 1954, Uncl.

NOWAK, Kazimierz, inz.; PUTERNICKI, Przemyslaw, mgr inz.; ZAMOJSKI, Jozef, mgr inz.

Recent trends in the construction of commutators. Wiad elektrotechn 31 no.3:33-38 Mr '63.

ZAMOJSKI A.

YUGOSLAVIA/Organic Chemistry. General and Theoretical Problems of Organic Chemistry. G

Abs Jour: Ref Zhur-Khim., No 23, 1958, 77489.

Author : Achmatowicz O., Zamojski A.
Inst :
Title : The Chemistry of Carbonyl Cyanide. Dienophilic Properties of Carbonyl Cyanide and Diethyl Mesoxalate. Formation of Dihydropyran Derivatives.

Orig Pub: Croat. chem. acta, 1957, 29, No 3-4, 269-275.

Abstract: See RZhKhim, 1958, 46602.

Card : 1/1

DMITRIYEVSKIY, V.P.; ZAMOLODCHIKOV, B.I.; KOL'GA, V.V.

[Cyclotron with a periodic magnetic field for multiply charged ions] TSiklotron s periodicheskim magnitnym polem dlia mnogozariadnykh ionov. Moskva, Glav. upr. po ispol'zovaniiu atomnoi energii, 1960. 14 p. (MIRA 17:2)

ZAMOLODCHIKOV, B.I.

PHASE I BOOK EXPLOITATION SOV/5333

Pchelintseva, G. M., ed.

Uskoriteli; sbornik statey (Accelerators; Collection of Articles) Moscow, Atomizdat, 1960. 122 p. Errata slip inserted. 5,000 copies printed.

Scientific Ed.: B.N. Yablokov; Ed.: G.M. Pchelintseva; Tech. Ed.: N.A. Vlasova.

PURPOSE: This collection of articles is intended for scientists and engineers engaged in the construction and operation of particle accelerators.

COVERAGE: These original articles treat specific problems arising in the operation of present-day accelerators, particularly linear electron accelerators. A new accelerator put into operation at the Ukrainskiy fiziko-tekhnicheskiy institut (Ukrainian Physicotechnical Institute) is described, and problems in the dynamics of particles in linear electron accelerators are discussed. New methods are discussed for the extraction of particles from accelerators. Problems associated with the shaping of permanent magnetic fields and the acceleration of multicharge ions are also treated. The changeover of the series cyclotron to the phasotron acceleration mode with a view to increasing the energy of accelerated particles is described, and some problems connected with the bunching of particles are elaborated. No personalities are mentioned. References accompany each article.

TABLE OF CONTENTS:

Preface 3

Vishnyakov, V.A., I.A. Grishayev, F.M. Zeydlits, and A. Ye. Tolstoy. Linear Electron Accelerator up to 6 Mev With Constant Phase Wave Velocity 5

Lomnev, S.P., and G.A. Tyagunov. Some Problems of the Dynamics of Particles in a Linear Electron Accelerator 19

Lomnev, S.P. Bunching of Particles in a Linear Electron Accelerator 33

Matora, I.M. New Scheme for Extraction of Particles From a Phasotron 44

Vorob'yev, A.A., and L.S. Sokolov. Use of Asymmetric Shifting of the Equilibrium Orbit of Electrons for Extraction of Beam From Betatron Chamber 52

Antonov, A.V., Yu. V. Korshunov, Ye. A. Meleshko, L.M. Nemenov, and V.S. Panasyuk. Ferrite Frequency Variator for Changing the Cyclotron to Phasotron Acceleration Mode 60

Danilov, V.I., N.L. Zaplatin, V.S. [illegible], and L.A. Sarkisyan. Shaping of Axially Symmetric Magnetic Fields With the Aid of Annular Shims 73

Nikolayev, V.S., I.S. Dmitriyev, Ye. A. Teplova, and L.N. Fateyeva. Generation of Multicharge Ions in Cyclotron 90

Dmitriyevskiy, V.P., B.I. Zamolodchikov, and V.V. Kol'ga. Cyclotron With Periodic Magnetic Field for Multicharge Ions 97

Kotov, V.I., A.B. Kuznetsov, and E.D. Rubin. Effect of Multiple Scattering and Radiation During Electron Buildup in Accelerators 105 (22

S/058/61/000/007/006/086
A001/A101

21.3300

AUTHORS: Dmitriyevskiy, V.P., Zamolodchikov, B.I., Kol'ga, V.V.

TITLE: The cyclotron with a periodical magnetic field for multicharged ions

PERIODICAL: Referativnyy zhurnal. Fizika, no. 7, 1961, 37, abstract 7B32 (V sb. "Uskoriteli", Moscow, Atomizdat, 1960, 94 - 104)

TEXT: A cyclotron is proposed with a periodical magnetic field with a purpose to produce beams of multicharged ions with a pulse of up to 2×10^6 oe.cm and intensity of several tens of microamperes. General relations are derived and necessary voltages are calculated for accelerating ions with a prescribed range of charge-to-mass ratio. The vertical focusing is effected by the variable gradient of the magnetic field whose maxima are located on spiral lines. An appendix contains the sketchy calculation of an installation with the following characteristics: field in the accelerator center, 16,000 oersted; the final radius of ion motion, 130 cm; the range of charge-to-mass ratios, 1/3 to 1/7.

B

A. Talyzin

[Abstracter's note: Complete translation]

Card 1/1

84229
S/089/60/009/004/009/020
B006/B070

21.2100

AUTHORS: Dmitriyevskiy, V. P., Zamolodchikov, B. I., Kol'ga, V. V.

TITLE: Beam Loss at the Limiting Radius in a Proton Synchrotron 19

PERIODICAL: Atomnaya energiya, 1960, Vol. 9, No. 4, pp. 303 - 305

TEXT: In the present "Letter to the Editor", the authors discuss the resonance interaction between the radial and vertical oscillations near n = 0.25. This resonance is much more harmful than the parametric excitation of vertical oscillations caused by the first harmonic in the structure of the magnetic field. The limiting energy to which particles in a high-energy proton synchrotron may be accelerated corresponds to a radius for which the coefficient $n = -(r/H)(dH/dr)$, characterizing the decrease of the magnetic field, is in the range $0.25 > n > 0.2$. Coupled oscillations do not lead to a total beam loss in the range $n = 0.2$. This range is followed immediately by the range of parametric excitation of vertical oscillations of frequency $Q_z = 0.5$ ($n = 0.25$). This parametric excitation cannot cause any significant increase of the amplitude in a real

Card 1/3

Beam Loss at the Limiting Radius in a Proton Synchrotron

84229
S/089/60/009/004/009/020
B006/B070

proton synchrotron. The effects which cause an increase of the amplitude of vertical oscillations in the presence of an azimuthal inhomogeneity of the magnetic field are now investigated. Coupled oscillations originating from a distortion of the closed orbits caused by an azimuthal inhomogeneity of the field structure are considered. Formulas are derived, which give the increase in the amplitude in the resonance zone for quasistatic (6) and dynamic (7) cases. The theoretical results were verified by means of an electronic simulator of the type ЭМУ-8 (EMU-8). This instrument integrated equation (2) describing the vertical oscillations. For this purpose, the equations were put in the form of a system of two equations (9), and the initial phase φ_0 was so chosen that the maximum increase of the amplitude of the vertical oscillations occurred during the passage through the resonance at $n_0 = 0.25$. The maximum amplitude of the oscillation could be observed on the indicator screen, and was determined from the voltage at the output of the integrator. The accuracy of the solution was 1%. The system of equations (9) was solved for two special cases: the proton synchrotron of Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research) in Dubna, and that of

Card 2/3

Beam Loss at the Limiting Radius in a Proton Synchrotron

84229

S/089/60/009/004/009/020
B006/B070

the Institute of Nuclear Research in Tokyo. Figs. 1 and 2 show the dependence of the maximum amplitude on the magnitude of the first harmonic of the magnetic field for kinetic ion energies of 680 Mev (Dubna) and 57 Mev (Tokyo). The calculated curves were obtained from equations (6) and (7). Figs. 3 and 4 show photographs of the oscillograms which show the build-up of vertical oscillations on the dynamical passage through the resonance considered (E_k=57 Mev). The authors thank V. P. Dzhelepov for discussions. There are 4 figures and 3 references: 1 Soviet and 2 US.

SUBMITTED: March 28, 1960

Card 3/3

ZAMOLODCHIKOV, B. I.

Cand Phys-Math Sci - (diss) "Several factors bounding the energy and intensity of beam in the phasotron and the relativistic cyclotron. Paper defended in work for the academic degree of candidate in phys-math sci as based on sum total of work undertaken." /Dubna, 1961/. 32 pp with diagrams; (Joint Inst of Nuclear Studies, Laboratory of High Energies); 160 copies; price not given; bibliography on pp 22-24 (35 entries); (KL, 10-61 sup, 204)

VASIL'YEVSKAYA, D.P.; GLAZOV, A.A.; DENISOV, Yu.N.; DZHELEPOV, V.P.; DMITRIYEVSKIY, V.P.; ZAMOLODCHIKOV, B.I.; ZAPLATIN, N.L.; KOL'GA, V.V.; KROPIN, A.A.; KUZNYAK, M.; ONISHCHENKO, L.N.; RYBALKO, V.S.; SARKISYAN, L.A.; SHVABE, Ye.; SARANTSEVA, V.R., tekhn. red.

[Theory and the modeling of a circular synchro-cyclotron with a spiral magnetic field] Voprosy teorii i modelirovaniia kol'tsevogo fazotrona so spiral'noi strukturnoi magnitnogo polia. Dubna, Ob"edinennyi in-t iadernykh issl., 1962. 7 p. (MIRA 15:4)

(Synchrotron)

GLAZOV, A.A.; DZHELEPOV, V.P.; DMITRIYEVSKIY, V.P.; ZAMOLODCHIKOV, B.I.; KOL'GA, V.V.; KROPIN, A.A.; ONISHCHENKO, L.M.; SHVABE, Ye.

Effect of a space charge on the frequency of free oscillations of particles in an isochronous cyclotron. Atom. energ. 15 no.3:205-209 S '63. (MIRA 16:10)

(Cyclotron) (Oscillations)

DANILOV, V.I.; YENCHEVICH, I.B.; ZAMOLODCHIKOV, B.I.; MARCHENKO, B.N.; NOVIKOV, D.L.; POLFEROV, E.A.; ROZANOV, Ye.I.; SAVENKOV, A.L.; SAFONOV, A.N.

Increase in intensity of a proton beam in a six-meter synchro-cyclotron of the United Institute of Nuclear Research. Atom. energ. 16 no.1:9-11 Ja '64. (MIRA 17:2)

L 4447-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c) DM

ACCESSION NR: AP5023773 UR/0089/65/019/003/0289/0292
621.384.611

14 B

AUTHOR: Danilov, V. I.; Yenchevich, I. B.; Zamolodchikov, B. I.; Polferov, E. A.; Rozanov, Ye. I.; Smirnov, V. I.; Testov, V. G.

TITLE: The increase in pulse duration of the 680 MEV OIYaI synchrocyclotron particle beam 17

SOURCE: Atomnaya energiya, v. 19, no. 3, 1965, 289-292

TOPIC TAGS: synchrocyclotron, ion acceleration, ion accelerator, MEV accelerator

ABSTRACT: In synchrocyclotrons ions are accelerated in bunches, the shape and dimensions of which are determined by radial-phase and betatron oscillations. The present authors describe a method for pulse extension which was tested on the OIYaI synchrocyclotron and yielded results summarized in Fig. 1 of the Enclosure. The method is based on the analysis of the approximate expressions for pulse duration.

$$T=\int_{r_{K}-\delta_r}^{r_{K}} \frac{dr}{\dot{r}_s(t)+\dot{\varrho}_{z.x}(t)}.$$

Card 1/4

L 4147-66
ACCESSION NR: AP5023773

where the speed of equilibrium orbit widening is given by

$$\dot{r}_s = \frac{r_s}{1-n}\cdot\frac{1}{E_s\beta_s^2}\cdot\frac{\omega_s}{2\pi}e_0V_0\sin\varphi_s = \frac{r_s}{1-n}\cdot\frac{1}{K_s\beta_s^2\omega_s}\cdot\frac{d\omega}{dt};$$

$\rho_{\text{B.M.}}(t)$ is velocity of displacement of the equilibrium orbit at the φ_n azimuth caused by the excitation of the first harmonics of the magnetic field;

$$n = -\frac{r}{H}\cdot\frac{\partial H}{\partial r};\ K = 1+\frac{n}{1-n}\cdot\frac{1}{\beta^2};\ \beta = \frac{v}{c};$$

v, ω, E are velocity, rotational frequency, and total energy of the particle, respectively; eV_0 - maximum possible energy increment per turn; subscripts s characterize equilibrium values;

$$\delta r = \varrho_{\text{б}} + \varrho_c \text{ with } \dot{\varrho}_{\text{в.м}} = 0;$$
$$\delta r = \varrho_{\text{б}} + 2\varrho_c \text{ with } \dot{r}_s = 0$$

Card 2/4

L 4147-66

ACCESSION NR: AP5023773

and ρ_{β}, ρ_{c} is the maximum amplitude of radial betatron and radial-phase oscillations respectively. It is shown that the length of the pulse may be extended by increasing the interval of radial oscillation amplitudes and by decreasing the beam velocity along the radius (this can be achieved by increasing, in time, the forced radial oscillations for $r_s = 0$). A brief description of the design and operation of the necessary circuits is also given. Orig. art. has: 9 formulas and 6 figures.

ASSOCIATION: None

SUBMITTED: 06Feb65 ENCL: 01 SUB CODE: NP, MA

NO REF SOV: 001 OTHER: 006

Card 3/4

L 4147-66

ACCESSION NR: AP5023773 ENCLOSURE: 01

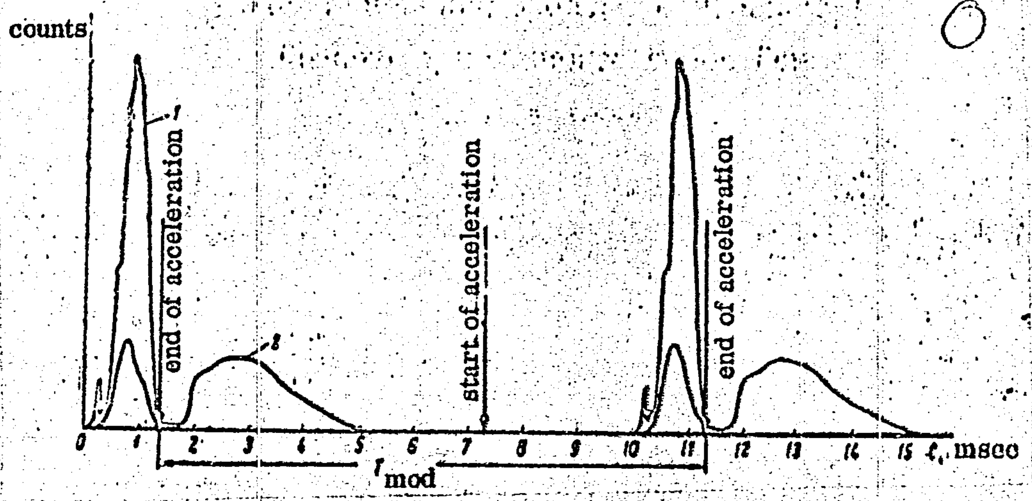


Figure 1. Shape of OIYaI synchrocyclotron beam pulses. 1- standard operation; 2 - extended beam pulse operation.

Card 4/4

L 2274-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c) GS
ACCESSION NR: AT5007943 UR/0000/64/000/000/0611/0615 39 37

AUTHOR: Glazov, A. A.; Dzhelepov, V. P.; Dmitriyevskiy, V. P.; Zamolodchikov, B. I.; Kol'ga, V. V.; Kropin, A. A.; Onishchenko, L. M.; Shvabe, Yu. L.

TITLE: Effect of space charge on the free oscillation frequency of particles in an isochronous cyclotron 19,55

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 611-615

TOPIC TAGS: high energy accelerator, space charge, cyclotron

ABSTRACT: Theoretical studies of the effect of space charge on the motion of particles in accelerators have been carried out in a number of works: Berestetskiy, V. V.; Gol'din, L. L.; Koshkarev, D. T. *Pribory i tekhnika eksperimenta*, 3, 26 (1956); Dmitriyevskiy, V. P.; Zamolodchikov, B. I.; Kol'ga, V. V. *Doklad no konferentsii po tsiklotronam* (Report on the Cyclotron Conference), Gracow, 1960; Kolomenskiy, A. A.; Lebedev, A. N. *Atomnaya energiya*, 7, 549 (1959). To create strong-current accelerators it is important to verify the theoretical conclusions with actual operating installations. The present work is concerned with the dependence of the frequency of axial oscillations upon the density of the space charge of the ac-

Card 1/2

L 2274-66

ACCESSION NR: AT5007943

2

celerated particles. Pertinent measurements were carried out on a cyclotron with spiral magnetic field for the specific case of molecular hydrogen ions accelerated up to the energy of 12 Mev (Vasilevskaya, D. P., et. al., *Atomnaya energiya*, 8, 189 (1960)). The results of the present work shows that the effect of the space charge does not prevent beam intensities of the order of several milliamperes in relativistic cyclotrons. A result of this space charge is the displacement of the zones of resonant interaction of the oscillations. Expressions are obtained which describe the effect of the space charge on the basis of linear equations for the free oscillations, taking account of the electromagnetic field of the accelerated particles. It is assumed that the particles in a condensed bunch are uniformly distributed along the azimuth and that the vertical size of the bunch is much smaller than the azimuthal extension. The main topics discussed are: (1) the density of the charged particles in a relativistic cyclotron and its influence upon the frequency of the axial oscillations; (2) measurement of the azimuthal extension of the bunch; (3) measurement of the frequency of the axial free oscillations; and (4) the limiting intensity of the internal beam in a relativistic cyclotron. Orig. art. has: 6 figures, 8 formulas.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy, Dubna (Joint Institute of Nuclear Research)

SUBMITTED: 26May64 15 ENCL: 00 SUB CODE: NP

NO REF SOV: 004 OTHER: 002

Card 2/2 DP

DZHELEPOV, V.P.; DMITRIYEVSKIY, V.P.; ZAMOLODCHIKOV, B.I.; KOL'GA, V.V.

High-power accelerators of high-energy particles, so-called "mes factories." Usp. fiz. nauk 85 no.4:651-678 Ap '65. (MIRA 18:5)

L 58913-65 EWT(m)/EPA(w)-2/EWA(m)-2 Pt-7 IJP(c) GS

ACCESSION NR: AT5007938 S/0000/64/000/000/0547/0555

AUTHOR: Glazov, A. A.; Denisov, Yu. N.; Dmitriyevskiy, V. P.; Zamolodchikov, B.I.; Zaplatin, N. L.; Kol'ga, V. V.; Komochkov, M. M.; Kropin, A. A.; Dzhelepov, V. P.; Gashev, M. A.; Malyshev, I. F.; Monoszon, N. A.; Popkovich, A. V.

10

38
B+1

TITLE: Relativistic 700-Mev proton cyclotron 19

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 547-555

TOPIC TAGS: proton accelerator, relativistic particle

ABSTRACT: Current theoretical concepts and experimental data conclusively show that to understand the microcosm further it is necessary to increase the beam intensity of accelerators by a factor of 10^3 and produce accelerators with energies up to thousands of Bev's. For the past 5-6 years constant gradient accelerators (500-900 Mev cyclotrons) have appeared to be the best way to produce particles with energies up to 1 Bev (1 Gev) with beam currents of the order of 1 milliampere instead of 1 microampere (as found in synchrocyclotrons). The present report describes the design for a 700-Mev proton cyclotron developed by the Laboratory of Nuclear Prob-

Card 1/3

L 58913-65

ACCESSION NR: AT50[illegible]

blems of the OIYaI jointly with the NIIEFA GKAE SSSR and other scientific research [illegible] mi roamperes. [illegible] maximum, and also because of the possibility of utilizing the [illegible] of the OIYaI for the new accelerator. The following new [illegible] of a magnetic field with complex [illegible] fields (gradients up to 4000 oe/cm) with an accuracy better than 10[illegible], (d) production of high-frequency oscillators with power up to 2 MW at a frequency of 12 megacycles per second (12 Mc), with frequency stability of the order of 10^{-5}, which [illegible] with a resonance system with amplitude of the accelerating high-frequency voltage of up to [illegible] effective operation and maintenance under conditions of high levels [illegible] system for the channeling of [illegible] of the problems connected with [illegible]

Card 2/3

L 58913-65

ACCESSION NR: AT5007938

2

producing beams of secondary particles and their channeling and focusing; (g) development of plans for the protection of personnel and instruments from radiation. The paper concludes that the relativistic cyclotron offers wide new possibilities for nuclear research in radiobiology, solid state physics, etc. Orig. art. has: 7 figures, 3 tables.

ASSOCIATION: (I) Ob"yedinennyy institut yadernykh issledovanniy, Dubna (Joint Institute of Nuclear Research, Dubna); (II) Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury imeni D. V. Yefremova GKAE SSSR (Scientific Research Institute of Electrophysical Equipment, GKAE SSSR)

SUBMITTED: 26May64 ENCL: 00 SUB CODE: NP

NO REF SOV: 009 OTHER: 002

dm

Card 3/3

L 58861-65 EPA(w)-2/EWT(m)/EWA(m)-2 Pt-7 IJP(c) GS

S/0000/64/000/000/0591/0594 35 34 B+1

ACCESSION NR: AT5007940

AUTHOR: Danilov, V. I.; Yenchevich, I. B.; Zamolodchikov, B. I.; Marchenko, B. N.; Novikov, D. L.; Polferov, E. A.; Rozanov, Ye. I.; Savenkov, A. L.; Safonov, A. N.; Shestov, A. V.

TITLE: Increasing the internal beam current of the OIYaI synchrocyclotron to 680-Mev 19.

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 591-594

TOPIC TAGS: synchrocyclotron, high energy accelerator

ABSTRACT: The Laboratory of Nuclear Problems of OIYaI modified the synchrocyclotron to increase the intensity of the internal beam, with the work being conducted in [illegible] in the synchrocyclotron such [illegible] (b) creating a focusing system that compensated for the [illegible] increases the mean current [illegible] at the center of the accelerator and [illegible] of accelerated protons. The phase motion in the synchrocyclotron is analyzed [illegible]

Card 1/5

L 58861-65

ACCESSION NR: AT5007940

0

two principal stages: first, the capture of the particles at the center of the synchrocyclotron during the accelerating regime; and second, their phase motion during the acceleration process up to the terminal radius. The equations of D. Bohm and L. Foldy (*Phys. rev.*, 72, 649 (1947)) are insufficient for the solution of the problem of the optimum capture of charged particles in the accelerating regime in synchrocyclotrons of several hundred Mev. This is explained by the fact that the growth in energy per revolution in the first stage for a constant accelerating potential (U_0=const.) depends upon the radius of the orbit. The curve describing the relative growth of proton energy per revolution as a function of radius was calculated by means of pictures of the dee potential field which were obtained from a model of the central region of the OIYaI synchrocyclotron in an electrolytic tank. Experimental measurements of the current at the radius R=30 cm determined the magnitude of $\dot{\omega}_{0\ \mathrm{init}}$ (growth of the circular frequency in units of radians per second^2) that ensures optimum capture conditions. Choice of this radius necessitates excluding the influence of variations in the phase conditions during proton acceleration in the region of the middle and terminal radii. The magnitude of $\dot{\omega}_{0\ \mathrm{init}}$ varied over a wide range with variation of the magnetic field strength at the center of the accelerator. For voltage at the dee of U_0=12 kilovolts and for existing geom-

Card 2/5

L 58861-65
ACCESSION NR: AT5007940

etry of the accelerating gap, the dependence of the intensity (capture effectiveness) upon $\dot{\omega}_{s\ init}$ for the OIYaI synchrocyclotron showed the optimum value to be 2.25x 10^{10} rad/sec^2 (B.I. Zamolodchikov, et al. Preprint OIYaI P-720, Dubna, 1961). Correction of the parameters of the accelerator's resonance system in January 1961 led to a frequency program with the indicated value of $\dot{\omega}_{s\ init}$ at the beginning of acceleration, which led in turn to increasing the internal beam from 0.3 to 0.8 microamperes at the terminal radius R=274.5 cm. The proton current was measured by means of the induced activity of an aluminum target, according to the reaction $Al^{27}(p,3pn)Na^{24}$, obtained at radii R=270 to 280 cm. A target with a lead backing was calibrated against a beam of protons, extracted from the synchrocyclotron chamber, by means of a Faraday cylinder. The second stage of the work consisted in creating high frequency characteristics of the synchrocyclotron $\omega_s=\omega_s(t)$ and $U_0=U_0(\omega_s)$ such that they ensure simultaneously the optimum conditions for the capture of the ions and their subsequent acceleration up to the terminal radius without phase loss. During selection of the frequency program of the synchrocyclotron consideration was taken of the damping of phase oscillations during the process of proton acceleration up to the terminal radius of the accelerator. Use was made of the invariance of the integral of action J during the adiabatic variations of the system's parameters.

Card 3/5

L 58861-65

ACCESSION NR: AT5007990

O

Further increase in the intensity of the synchrocyclotron was reached by introduction of additional vertical (axial) focusing of the accelerated ion beam in the central region of the accelerator. Investigations of the focusing systems demonstrated the advantage of electrostatic focusing over magnetic focusing at the center of the accelerator. The system of focusing electrodes used in the OIYaI synchrocyclotron was constructed with the possibility of regulating the gap between the dee and supplementary electrodes. Moreover, the configuration of the electric field can be varied by regulation of the arrangement of the grounded screen placed between the dee and the potential electrodes. The Hill equation can describe the motion of the ions in the accelerator's magnetic field and in the electrostatic field created by the supplementary electrodes. The optimum arrangement of the electrodes of the focusing installation was found by experimental study of the properties of the system according to the dependence of the beam current upon U_f (focusing voltage in kilovolts) for various distances of the electrodes from the center of the accelerator. The internal beam current for the indicated conditions was approximately doubled, amounting at the present time to 2.2-2.3 microamperes. Orig. art. has: 7 figures.

Card 4/5

L 58861-65

ACCESSION NR: AT5007940

/

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy, Dubna (Joint Institute of Nuclear Research)

SUBMITTED: 26May64 ENCL: 00 SUB CODE: NP

NO REF SOV: 001 OTHER: 002

Card 5/5

L 51470-65 EPA(w)-2/EWT(m)/EWA(m)-2 Pt-7/Pab-10 IJP(c)
ACCESSION NR: AP5011292 UR/0053/65/085/004/0651/0678

AUTHOR: Dzhelepov, V. P.; Dmitiryevskiy, V. P.; Zamolodchikov, B. I.; Kol'ga, V.V.

TITLE: Strong current high energy particle accelerators--"meson factories"

SOURCE: Uspekhi fizicheskikh nauk, v. 85, no. 4, 1965, 651-678

TOPIC TAGS: particle accelerator, cyclotron, high current accelerator, particle extraction, accelerator shielding

ABSTRACT: The article deals with high-energy particle accelerators in which the particles are accelerated to approximately 1 GeV and which produce sufficiently large current, up to 1 mA (meson factories). Such accelerators are capable of producing nucleon, pion, and muon currents which are hundreds and thousands of times larger than existing equipment can supply. The article discusses the prospects afforded by such accelerators, the physical principles of accelerating particles [illegible] theory, linear resonance effects, phase mo

and in the USSR. The question of radiation shielding and the p

Card 1/2

L 51470-65

ACCESSION NR: AP5011292

cle beams with such accelerators, as well as the use of a linear proton accelerator as a high-current source, are also discussed. Orig. art. has: 13 figures, 27 formulas, and 4 tables.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NR REF SOV: 017 OTHER: 009

Card 2/2

4

L 2535-66 EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) JD UR/0120/65/000/004/0182/0187
ACCESSION NR: AP5021359 621.318.3:621.384.634

50
30

AUTHOR: Akhmanov, V. V.; Barkov, L. M.; Nikol'skiy, B. A.; Sokolov, B. V.; Khakimov, S. Kh.; Shestakov, V. D.; Bobovikov, R. S.; Dobretsov, Yu. P.; Zamolodchikov, B. I.

TITLE: An arrangement for producing pulsed magnetic fields of strengths up to 150 kilogauss

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1965, 182-187

TOPIC TAGS: pulsed magnetic field, thyratron, synchrocyclotron

ABSTRACT: The units of an apparatus for producing a pulsed magnetic field of 146 kilogauss in a space of about 600 cm^3 are described. Pulsed magnets of beryllium bronze are powered by a capacitor bank of 0.1 farad capacitance. The capacitors are charged through limit resistances to 2 kv from a thyratron rectifier, and a I-100/5 ignitron is used as the switching element. Synchronization and control for operation with a synchrocyclotron are obtained by a special circuit. This arrangement for obtaining the pulsed field operates reliably. In the tests two separate magnets were used, each producing a field of 146 kilogauss. The use of the I-100/5

Card 1/2

L 2535-66 20
ACCESSION NR: AP5021359

ignitron when proper heating and cooling were maintained prior to switching in the
field secured operation without breakdown for 20—40 hr at a switching rate of
10/min. The joint operation of the pulsed magnet with the synchrocyclotron required
some rearrangement of the control system to guarantee that no particle was emitted
without accompaniment of a pulsed magnetic field. "The authors express their thanks
to V. I. Danilov, T. N. Tomilina, and I. B. Yanchevich for carrying on the work.
The authors are grateful to I. I. Gurevich and V. P. Dzhelepov for their constant
interest and help in the work. The authors express their thanks to V. I. Smirnov,
F. Ye. Gugnin, I. P. Lavrushkin, Yu. V. Maksimov, A. V. Shestov, V. I. Ivanov, I. M.
Markachev, A. F. Burtsev, B. V. Degtyarev, N. P. Chistyakov, and M. T. Berezov for
their aid in maintaining and operating the equipment." Orig. art. has: 11 figures
and 1 table. [04]

ASSOCIATION: Institut atomnoy energii GKAE, Moscow (Institute of Atomic Energy GKAE);
LYaP OIYaI; NII EFA; MIFI

SUBMITTED: 17Jun64 ENCL: 00 SUB CODE: NP

NO REF SOV: 001 OTHER: 003 ATD PRESS: 4110

Card 2/2

DANILOV, V.I.; YENCHEVICH, I.B.; ZAMOLODCHIKOV, B.I.; POLFEROV, E.A.;
ROZANOV, Ye.I.; SMIRNOV, V.I.; TESTOV, V.G.

Increasing the pulse duration of particle beams from a 680 Mev. OIIAI synchrocyclotron. Atom. energ. 19 no.3:289-292 S '65. (MIRA 18:9)

GARAGULYA, L. S.; ZAMOLOTCHIKOVA, S. A.

Seasonal freezing of soils in the Syktyvkar region and the prediction of soil freezing changes following development of the territory. Merzl. issl. no.1:45-59 '61.
(MIRA 16:1)

(Syktyvkar region—Frozen ground)

L 46965-66 EWT(l)/EWT(m)/EWP(w)/EWP(c)/T/EWP(t)/ETI/EWP(k) IJP(c)
ACC NR: AT6024928 (A,N) SOURCE CODE: UR/2981/66/000/004/0187/0191
JD/HM/EM/JH

AUTHOR: Loktionova, N. A.; Ovchinnikov, Yu. F.; Nikonorov, Ye. A.; Zamolodchikova, V. N.; Lapina, L. V.; Perevozchikov, A. V.; Potapov, P. I.,

ORG: none

42

B+1

TITLE: Residual stresses 26 in weld 18 joints of aluminum 27 alloys

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy (Heat resistant and high-strength alloys), 187-191

TOPIC TAGS: tensile stress, compressive stress, aluminum alloy property, weld evaluation

ABSTRACT: The residual stresses in various parts of a welded structure of ATsM 18 alloy were determined by a mechanical method, and the influence of the artificial aging and tempering 18 of the weld joints on the magnitude of these stresses was investigated. It was found that longitudinal residual stresses up to 10-11 kg/mm^2 and compressive residual stresses up to 11-12 kg/mm^2 in the transverse direction arise in the zone of the weld joints. Artificial aging of the weld joints of ATsM alloy for 100 hr at 90° does not change the magnitude and character of the residual stresses in the heat-affected zone as compared to the residual stresses in the naturally aged state. Tempering of the zone of the weld joint 16 by induction heating to 240-250°C for 4-5 min followed by cooling of the heat-affected zone with water increases the magnitude of the

Card 1/2

L 46965-66

ACC NR: AT6024928

longitudinal tensile residual stresses by 1.5-2 kg/mm^2, without changing the sign. At the same time, the transverse residual stresses change into compressive ones and reach 4 kg/mm^2. Orig. art. has: 2 formulas.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 003

Card 2/2 mt

ZAMOLOTOV, A.

ZAMOLOTOV, A.

From the leaves of corn. Prom. koop. no.12:35 D '57. (MIRA 10:12)

1. Predsedatel' pravleniya arteli "Krasnyy kubanets," stantsiya Dinskaya, Krasnodarskogo kraya.
(Dinskaya (Krasnodar Territory)--Basketwork)